

IVY TECH COMMUNITY COLLEGE – REGION 03
SYLLABUS MAT 137: TRIGONOMETRY WITH ANALYTIC GEOMETRY SPRING 2014

| | |
|-----------------------------------|--|
| Instructor: Lauren Decker | MML Course ID: decker62436 |
| Classroom Number: HM 0404 | E-mail Address: ldecker6@ivytech.edu |
| Course Section Number: 50C | Meets –Days/Times: Wednesday 6:30-9:20 pm |

COURSE TITLE: Trigonometry with Analytic Geometry

COURSE NUMBER: MATH 137

PREREQUISITES: Successful completion of MATH 111 or demonstrated competency through appropriate assessment or a grade of “C” or better in MATH 035 or MATH 043.

DIVISION: School of Liberal Arts and Sciences

PROGRAM: School of Liberal Arts and Sciences

CREDIT HOURS: 3

CONTACT HOURS: Lecture: 3

CATALOG DESCRIPTION: Presents an in-depth study of right triangle trigonometry, oblique triangles, vectors, graphs of trigonometric functions, trigonometric identities and equations, complex numbers in rectangular and polar/trigonometric forms, rectangular and polar coordinates, and conics. MATH 136 and MATH 137 together comprise a standard two-semester college algebra and trigonometry course.

MAJOR COURSE LEARNING OBJECTIVES: Upon successful completion of this course the student will be expected to:

1. Convert between degree measure and radian measure.
2. Find trigonometric function values of any angle expressed in degree or radian measure.
3. Solve right triangles.
4. Solve oblique triangles using the law of sine and cosine.
5. Use and apply properties of vectors.
6. Graph trigonometric functions.
7. Utilize trigonometric identities.
8. Solve trigonometric equations.
9. Convert between rectangular and polar coordinate systems.
10. Apply properties of complex numbers in rectangular and polar forms.
11. Determine the features of a conic section from a standard equation.
12. Graph circles, parabolas, ellipses, and hyperbolas.
13. Use the above principles to solve practical applications.
14. Use a scientific and/or graphing calculator proficiently as related to coursework.
15. Use computer technology which may include the Internet, the Web, e-mail, or computer tutorials to enhance the course objectives.

COURSE CONTENT: Topical areas of study include --

Complex Numbers
Right and oblique triangles
Graphs of trigonometric functions
Rectangular and polar coordinates
Conics

Angles and trigonometric functions
Vectors
Trigonometric equations and identities
Rational Functions

TEXTBOOK/CURRICULUM MATERIALS:

- **Sullivan, Michael. *Algebra and Trigonometry*. 9th Edition. Prentice Hall.**
This text is sold as a bundle by Ivy Tech bookstores (see purchasing directions below) with ISBN 9780321760654. The bundle includes the MyMathLab access code, the Student Solution’s Manual and a set of Lecture CDs.
- **MyMathLab access code** (included with the suggested textbook bundle)

HOW TO ACCESS THE IVY TECH COMMUNITY COLLEGE LIBRARY:

The Ivy Tech Library is available to students on and off campus, offering full text journals and books and other resources essential for course assignments. Go to <http://www.ivytech.edu/library/> and choose the link for your campus. The library contains several different books that contain similar material as the course textbook. These books have titles such as: “Algebra”, “Geometry”, “Probability”, or “Statistics”. These books contain more or less the same materials but use slightly different approaches for certain topics. These books can be used to clear up difficulties and to provide additional examples. There are also some videos in the library on geometry.

MATERIALS AND EQUIPEMENT SUPPLIED BY STUDENTS

You will need paper, pencil, and a scientific calculator (*no graphing or cell phone calculators*).

EVALUATION PROCEDURES:

| | |
|-------------------|-----|
| 1. Exam 1 | 20% |
| Exam 2 | 20% |
| Exam 3 | 20% |
| Exam 4 | 20% |
| Quizzes | 10% |
| Assignments | 10% |

2. Grading Scale

100% - 90% = A
89% - 80% = B
79% - 70% = C
69% - 60% = D
Below 60% = F

3. Assignments and Quizzes

The assignments and quizzes are due as directed by the instructor and cannot be made up. Any problems from assignments and quizzes not completed by the due date will be assigned a zero.

4. Exams

You must obtain your instructor's permission in **advance** and have valid documentation to reschedule an exam. Failure to secure approval from your instructor in advance will result in an exam score of zero. Exams must be made up within a week of the original test date. There are no "retries" on any exams.

5. Final Exam

Exam 4 is scheduled during the last week of class and occurs in place of a comprehensive final exam.

No extra credit will be offered.

GENERAL INFORMATION

1. Each section has its own MyMathLab course. The course ID is **decker62436**. A student access kit is provided with new textbooks purchased from Ivy Tech's book store. If you purchased your textbook elsewhere the kit can be purchased from the bookstore or you can purchase a kit online at <http://www.coursecompass.com>, <http://www.mymathlab.com>, or <http://www.pearsonmylabandmastering.com> (You will need a credit card). If you have any questions on using MyMathLab you can call 1-800-677-6337.
2. Attendance is very important. Students are expected to attend all classes. Students are responsible for all class notes, materials, and problems assigned whether absent or present. Excessive absences will have a negative effect on the learning experience. Students are expected to arrive to class on time and stay for the duration of the class.
3. Cell Phones, I-Pods, laptops, personal computers, pagers and any other electronic devices should be turned off or to vibrate during class. All electronic devices must be turned off or to silent during an exam. Cell phones may not be used as calculators in this course.
4. Seek help immediately if the work becomes too difficult. Help is available in the following ways:
 - Contact the Center for Academic Excellence at 480-4262, Coliseum Campus Room 2308 or Harshman Hall room 1610 for free tutoring
 - Form a study group with classmates and meet before or after class
 - Find someone who has already successfully completed the course
 - Use the resources you purchased with your textbook.
 - See the instructor.

5. Exams, once taken and graded, are the property of Ivy Tech Community College and are confidential. You will be able to review the test and ask questions but must turn the test back in before you leave.
6. It is college policy that no food or beverages are allowed in the classroom.

ACADEMIC HONESTY STATEMENT:

The College is committed to academic integrity in all its practices. The faculty value intellectual integrity and a high standard of academic conduct. Activities that violate academic integrity undermine the quality and diminish the value of educational achievement. Cheating on papers, tests or other academic works is a violation of College rules. No student shall engage in behavior that, in the judgment of the instructor of the class, may be construed as cheating. This may include, but is not limited to, plagiarism or other forms of academic dishonesty such as the acquisition without permission of tests or other academic materials and/or distribution of these materials and other academic work. This includes students who aid and abet as well as those who attempt such behavior.

COPYRIGHT STATEMENT:

Students shall adhere to the laws governing the use of copyrighted materials. They must insure that their activities comply with fair use and in no way infringe on the copyright or other proprietary rights of others and that the materials used and developed at Ivy Tech Community College contain nothing unlawful, unethical, or libelous and do not constitute any violation of any right of privacy.

ADA STATEMENT:

Ivy Tech Community College seeks to provide reasonable accommodations for qualified individuals with documented disabilities. If you need an accommodation because of a documented disability, please contact the Office of Disability Support Services. If you will require assistance during an emergency evacuation, notify your instructor immediately. Look for evacuation procedures posted in your classroom.

IVY TECH GROWING GREENER:

Ivy Tech Community College–Northeast is committed to the development and implementation of a comprehensive sustainability plan. We're emphasizing our responsibility to go green. To that end, we are asking students, faculty, and staff to actively participate in energy conservation measures and proper recycling on campus. The recycling bins located in classrooms and offices are for paper and paper products only. Ivy Tech participates in single-stream recycling for other items. All aluminum, glass, and plastic beverage containers can co-mingle in the same recycling bins located in the hallways. Please remember to empty the liquid from your containers before depositing them in the bins. Any materials that cannot be recycled should be placed in garbage cans. It is also important to turn off lights and computers when leaving a room. Together, we can make an impact on conserving our limited resources. Remember to reduce, reuse, and recycle!

IVY TECH SMOKING POLICY:

Breathe easy. Ivy Tech–Northeast is committed to providing a healthy, comfortable and productive environment for the students, faculty and staff of this campus. The use or sale of any tobacco product is prohibited on college-owned, operated, or leased property or vehicles at any time. The policy applied to all Ivy Tech–Northeast facilities and grounds, regardless of location. Smoking, including the use of an e-cigarette, shall not be permitted in any enclosed space and is also prohibited outdoors on all college campus property, including parking lots. This policy applies to all students, faculty, staff and visitors. **Tickets and fines will be issued to violators.**

IMPORTANT DATES:

First Day of Classes: January 13, 2014
Martin Luther King Jr. Holiday: January 20, 2014
Last Day to Withdraw: April 12, 2014
Spring Break: March 9 – 16, 2014
Last Day of Classes: May 10, 2014

COURSE OUTLINE:

| <u>WEEK</u> | <u>CHAPTER AND SECTION NUMBERS</u> |
|-------------|---|
| 1 | Syllabus 7.1, 7.2 |
| 2 | 7.2 cont. 7.3 |
| 3 | 7.4 7.5 |
| 4 | 7.6 7.7, 7.8 |
| 5 | Exam I (CH 7) 8.1 |
| 6 | 8.2 8.3 |
| 7 | 8.4 8.5 |
| 8 | 8.6 8.7 |
| 9 | Exam II (CH 8) 9.1 |
| 10 | 9.2 9.3 |
| 11 | 9.4 10.1 |
| 12 | 10.2 10.3 |
| 13 | Exam III (CH 9.1 – 9.4 and CH 10.1 – 10.3, CH 2.4) 10.4 |

| | |
|----|---|
| 14 | 10.5 |
| | 11.1, 11.2 |
| 15 | 11.3, 2.4 |
| | 11.4 |
| 16 | Review |
| | Exam IV (CH 10.4 – 10.5 and CH 11.1 – 11.4 and CH 2.4) |

This course outline may vary at the discretion of the instructor.

| <u>START DATE</u> | <u>DUE DATE</u> | <u>HOMEWORK, QUIZZES, AND WORKSHEETS</u> |
|-------------------|-----------------|--|
| | | |
| 01/15/14 | 02/12/14 | HW 1 (7.1, 7.2, 7.3, and 7.4) |
| 01/15/14 | 02/12/14 | Quiz 1 (7.1, 7.2, 7.3, and 7.4) |
| | | |
| 01/15/14 | 02/12/14 | HW 2 (7.5, 7.6, 7.7, and 7.8) |
| 01/15/14 | 02/12/14 | Quiz 2 (7.5, 7.6, 7.7, and 7.8) |
| | | |
| 01/15/14 | 02/12/14 | EXAM I (CH 7) |
| | | |
| 01/15/14 | 03/19/14 | HW 3 (8.1, 8.2, and 8.3) |
| 01/15/14 | 03/19/14 | Quiz 3 (8.1, 8.2, and 8.3) |
| | | |
| 01/15/14 | 03/19/14 | HW 4 (8.4, 8.5, 8.6, and 8.7) |
| 01/15/14 | 03/19/14 | Quiz 4 (8.4, 8.5, 8.6, and 8.7) |
| | | |
| 01/15/14 | 03/19/14 | EXAM II (CH 8) |
| | | |
| 01/15/14 | 04/16/14 | HW 5 (CH 9) |
| 01/15/14 | 04/16/14 | Quiz 5 (CH 9) |
| | | |
| 01/15/14 | 04/16/14 | HW 6 (10.1, 10.2, 10.3) |
| 01/15/14 | 04/16/14 | Quiz 6 (10.1, 10.2, 10.3) |
| | | |
| 01/15/14 | 04/16/14 | EXAM III (CH 9.1 – 9.4 and CH 10.1 – 10.3) |
| | | |
| 01/15/14 | 05/07/14 | HW 7 (10.4, 10.5) |
| 01/15/14 | 05/07/14 | Quiz 7 (10.4, 10.5) |
| | | |
| 01/15/14 | 05/07/14 | HW 8 (11.1, 11.2, 11.3, 11.4, and 2.4) |
| 01/15/14 | 05/07/14 | Quiz 8 (11.1, 11.2, 11.3, 11.4, and 2.4) |
| | | |
| | 05/07/14 | FINAL EXAM (CH 10.4 – 10.5, CH 11.1 – 11.4, and CH 2.4) |

This course Schedule may vary at the discretion of the instructor.

Student Responsibilities

1. You are responsible for your own learning. Since this is a very fast paced class, you will be doing a lot of studying and brainstorming on your own. I go over the concepts quickly and I expect you to spend time outside of class trying to reinforce the concepts that we learn in class.
2. Your responsibility is to study mathematics every day. This way when you take an exam, you will not be very anxious or have a lot of anxiety. All the exams are fair exams. If you do not like your score or you are upset with the performance of your exam, then you need to come see me after class so we can talk about what you need to do in order to perform better on the next exam.
3. Your responsibility is to come to class with a willingness to learn. You will come to class with a positive attitude so we can learn in a positive environment. I will not tolerate anyone who is disrespectful to me or the rest of the class. If you are, I will ask you to leave the classroom.
4. Your responsibility is to check the due dates for your homework, quizzes and exams. Do not come and ask me when things are due. I have five different classes and each class has different assignments with different due dates. When you ask me when assignments are due, I will ask you to check your syllabus, class schedule, or MyMathLab.
5. Your responsibility is to make sure you get your homework and quizzes done by the due date. Do not come and ask for an extension because the answer will be no. Homework and quizzes are due on the day of an exam; this is more than enough time to complete the assignments.
6. Your responsibility is to check your Ivy Tech e-mail. You need to check your Ivy Tech e-mail account more than once per a week. I send e-mails throughout the semester.
7. Your responsibility is to read any e-mail that I send to you.
8. Your responsibility is contact me if you cannot make it to an exam. Remember, in order to make-up an exam you must contact me before class begins either by e-mail or office telephone and have valid documentation of why you were unable to take the exam on the scheduled date. If you contact me by e-mail you must leave your name, what class you are taking, and why you cannot make it to the exam. If you contact me by office telephone, you must leave a message on my voicemail. Please leave your name, telephone number, and what class you are in, this way we can discuss taking a make-up exam. Please do not call and hang up, this is not considered contacting me.

Grading and Makeup Policies

General Policies Regarding All Classes and All type of Assignments

- The instructor owns the copyright to all original material, and this material may not be duplicated without permission from the instructor.
- Computer/technical problems (printer ran out of ink, computer locked up, flash drive was stolen, etc.) do not constitute an excuse for turning anything in late.
- No late papers or assignments may be turned in during the last week of the semester.
- Being late or not attending class can negatively affect your grade. Missing 25% of the class may result in failure of the course due to missed instruction and missed work that cannot be made up.
- You are responsible for all missed material due to any absences.
- In case of a documentable emergency, the policies may be adjusted at the discretion of the instructor.

Classroom Etiquette

- Cell phones must be turned off or put in vibrate mode. Text messaging is not allowed during the class.
- Children under 16 are not allowed in the classroom.
- You must gain permission from the instructor before you can tape any portion of the class.

Homework and Assignments

- Homework and assignments are due at the **beginning** of class on the due date unless otherwise indicated by the instructor.
- If you are absent from class it is still expected that you will turn your homework or assignment in on time.

Papers and Projects

- Papers and projects are due at the **beginning** of class on the due date unless otherwise indicated by the instructor.
- If you are absent on the due date it is your responsibility to make sure the paper or project is still turned in on time.
- The instructor reserves the right to reject any paper that is not completed according to directions given or that fails to meet general college-level standards.
- The responsibility for proof regarding the originality of a paper rests with you, not the instructor.
- Late papers and projects may be accepted with the following late penalties. Certain types of papers or projects may not be turned in late for any amount of credit. These are clearly identified in the class syllabus.
 - If it is turned in within 24 hours of the due date there will be a 10% reduction.
 - After 24 hours and up to one week there will be a 50% reduction.
 - After one week the paper or project will no longer be accepted for credit.

Quizzes and in-class assignments

- Quizzes and in-class assignments **cannot** be made up.
- If you are absent for any reason on a day with a quiz or in-class assignment you will receive 0 points for it.

Tests

- Only one test a semester may be made up.*
- If you know you will have to miss a test, you must make arrangements with the instructor before the test date in order to take the test at an alternate time.
- In an emergency situation (i.e. flat tire, emergency room visit) you must contact the instructor via means outlined in the syllabus to make arrangements to make up the test.
- Arrangements to make up a test must be made with the instructor within one week of the original date of the test.

Labs

- Labs cannot be made up under any circumstances.
- Proper safety guidelines must be followed at all times. Failing to follow safety guidelines will result in a score of 0 on the lab, and the student will be asked to leave the classroom during the lab.
- A score of 0 will be entered for any labs that are missed.

Grading

- If questions about class policies and procedures or grades arise during or after the semester, you must meet with your instructor to discuss this first prior to speaking with a program chair or any other college representative.

Midterm

- Midterms may not be made up.

Final Exam

- There is no make-up for the final exam. The semester is over.

End of Semester

- The last class meeting is the end of the semester. Nothing may be turned in or completed after that date. All graded assignments should be picked up by the end of this meeting or they will no longer be available.

*This does **not** mean that you may make up one test; rather, it means that you may not make up more than one. **Any** make-up test must be approved by your instructor **in advance**.